Amendments to the Claims

The following listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A homogeniser [[(1)]] for continuous treatment of fluids at very high pressure, ~~of the type~~ comprising:

[[-]] at least one single-acting plunger [[(5)]] with reciprocating motion from a guide chamber [[(11)]] to a compression chamber [[(6)]] from a fluid intake position to a fluid delivery position;

[[-]] a block [[(26)]] for each said plunger, connecting the compression chamber [[(6)]] with at least one intake valve [[(28)]] and with at least one delivery valve [[(29)]] for each said plunger~~, housed in containers (30) fixed to the bock (26)~~ ;

[[-]] an internal manifold [[(27)]] connecting the compression chamber [[(6)]] with the at least one intake valves ~~(28)~~ and the at least one delivery valves ~~(29)~~ ;

[[-]] at least one intake pipe [[(31)]] and at least one delivery pipe [[(32)]] both communicating with the manifold [[(27)]] and respectively terminating in the intake valve [[(28)]] and in the delivery valve [[(29)]] ,

~~characterised in that it~~ wherein the at least one intake valve and the at least one delivery valve are housed in separate containers fixed to the block, and the homogeniser comprises at least one of the following units:

[[-]] a first, dynamic seal unit [[(21)]] positioned around the guide chamber [[(11)]] and in contact with [[the]] a surface of the ~~reciprocating~~ plunger [[(5)]] , designed to create a seal on the plunger [[(5)]] during compression;

[[-]] a second, static seal unit [[(24)]] located close to [[the]] an intersection between the compression chamber [[(6)]] and the guide chamber [[(11)]] , ~~being~~ designed to contain [[the]] pressure generated ~~in the pump~~ during compression between ~~the~~ opposite surfaces of a block [[(7)]] and a housing flange [[(9)]] for a dynamic seal [[(21)]] ;

[[-]] a third, static seal unit [[(35)]] located upstream and downstream of each said at least one intake valve and said at least one delivery valve ~~(28, 29)~~ and at [[the]] an intersection between the manifold [[(27)]] and the compression chamber [[(6)]], respectively housed in hollows ~~(33, 34, 38)~~ designed to prevent fluid from escaping.

2. (currently amended) The homogeniser according to claim 1, ~~characterised in that~~ wherein the first, dynamic seal unit [[(21)]] comprises:

[[-]] at least one first self-energising seal [[(22)]] with an energising ring made of an elastomer;

[[-]] at least one bearing assembly [[(23)]], coaxial with and alongside the first self-energising seal [[(22)]] and equipped with a system for extraction from its housing ~~such as a suitably sized thread~~.

3. (currently amended) The homogeniser according to claim 2, wherein the first self-energising seal ~~(22) has~~ comprises a single sealing lip and is made ~~with~~ of a combination of plastic materials, high molecular weight PE and PEEK.

4. (currently amended) The homogeniser according to claim 2, wherein the bearing assembly [[(23)]] is made of ~~special~~ non-galling stainless steel~~, such as Nitronic 60~~.

5. (currently amended) The homogeniser according to claim 1, wherein the second seal unit ~~(24) has~~ comprises a second self-energising static seal [[(25)]] with dimensions and geometry which allow [[the]] containment of very high pressures~~, and if necessary fitted with an external anti-extrusion ring (39)~~.

6. (currently amended) The homogeniser according to claim 1, wherein the third seal unit comprises:

[[-]] at least one anti-extrusion ring [[(36)]] with a rectangular cross-section and a circular ring cross- section in [[the]] a direction orthogonal to [[the]] an axis of symmetry;

[[-]] at least a third self-energising seal [[(37)]] inside [[the]] a respective anti-extrusion ring [[(36)]] .

7. (currently amended) The homogeniser according to claim 6, wherein each anti-extrusion ring [[(36)]] is mounted ~~in such a way as~~ to create an interference fit with the height of the hollow ~~(33, 34, 38)~~ for a more effective mechanical seal.

8. (currently amended) The homogeniser according to claim 7, wherein the interference fit of each anti-extrusion ring [[(36)]] is equal to 0.1 mm on the height of the hollow ~~(33, 34, 38)~~ in which the ring is housed.

9. (currently amended) The homogeniser according to claim 1, wherein the internal surfaces of the manifold [[(27)]], the intake pipe [[(31)]] and the delivery pipe [[(32)]] , exposed to the pressure of the fluid, are treated by manual polishing, radiusing of any edges at the intersections of concurrent holes, micro shot peening and electropolishing.

10. (currently amended) The homogeniser according to claim 1, wherein the plunger [[(5)]] is made of a ceramic material ~~such as pure silicon nitride Si3N4~~.

11. (currently amended) The homogeniser according to claim 1, wherein a plunger seal apparatus is present, housed in the guide chamber [[(11)]] and locked by a locking flange [[(10)]] outside the compression chamber contained in the block [[(7)]] .

12. (currently amended) The homogeniser according to claim 1, wherein a lubricating - coolant fluid feed channel [[(17)]] is positioned on a locking flange [[(10)]] immediately axially close to a first, dynamic seal unit [[(21)]] .

13. (currently amended) The homogeniser according to claim 1, wherein the plunger comprises a guide consisting of a bushing [[(15)]] housed in a locking flange [[(10)]] and centered relative to a housing flange [[(9)]] by a concentric centring projection [[(13)]] .

14. (currently amended) The homogeniser according to claim 13, wherein the housing flange [[(9)]] is centered relative to the block [[(7)]] by cylindrical pins [[(12)]] .

15. (currently amended) The homogeniser according to claim 1, wherein a delivery manifold [[(40)]] connects the delivery valve units [[(29)]] .

16. (currently amended) The homogeniser according to claim 1, wherein a support flange [[(41)]] for the intake valve [[(28)]] unit for each plunger is connected to [[the]] a low pressure intake manifold ~~of the pump~~.

17. (currently amended) The homogeniser according to claim 1, wherein each third, static seal unit [[(35)]] consists[[ing]] of a self- energising seal [[(37)]] and an anti-extrusion ring [[(36)]] and can be applied to all of the high pressure seal zones including [[the]] a connection between the ~~delivery~~ manifold and a homogenising valve.

18. (currently amended) The homogeniser according to claim 1 ~~any of the foregoing claims, characterised in that it is~~ said homogeniser being equipped with an adjustable homogenising valve installed at [[the]] an outlet of a delivery manifold [[(40)]] .

19. (new) The homogeniser according to claim 2, wherein said system for extraction comprises a thread.

20. (new) The homogeniser according to claim 4, wherein said non-galling stainless steel is Nitronic 60.

21. (new) The homogeniser according to claim 5, wherein the second self-energising static seal is fitted with an external anti-extrusion ring.

22. (new) The homogeniser according to claim 10, wherein said ceramic material is pure silicon nitride, Si_3N_4.